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Experts' perspective on a definition for delayed return-to-work after surgery for nontraumatic upper extremity disorders: Recommendations and implications

Susan E. Peters BOccThy(Hons), PhD^{a,b,*}, Michel W. Coppieters BPhy, PhD^{c,d,e}, Mark Ross MBBS^{b,f,g}, Venerina Johnston BPhy, PhD^c

^a Department of Occupational Therapy, School of Health and Rehabilitation Sciences, The University of Queensland, St Lucia, Australia

^b Brisbane Hand and Upper Limb Research Institute, Brisbane Private Hospital, Brisbane, Australia

^c Department of Physiotherapy, School of Health and Rehabilitation Sciences, The University of Queensland, St Lucia, Australia

^d Department of Movement Sciences, MOVE Research Institute Amsterdam, Faculty of Behavioural and Movement Sciences, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands

^e School of Allied Health Sciences, Faculty of Health, Griffith University, Gold Coast, Australia

^f Department of Orthopedic Surgery, School of Medicine, The University of Queensland, St Lucia, Australia

^g Orthopaedic Department, Princess Alexandra Hospital, Woolloongabba, Australia

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ABSTRACT

Study Design: Descriptive study.

Introduction: A delayed return to work (RTW) is often associated with poorer outcomes after a workplace injury but is ill defined.

Purpose of the Study: To define delayed RTW after surgery for nontraumatic upper extremity conditions.

Methods: Experts were consulted to define delayed RTW and whether a universal time point can determine the transition from early to delayed RTW.

Results: Forty-two experts defined a delayed RTW as either a worker not returning to preinjury (or similar) work within the expected time frame (45%); not returning to any type of work (36%); or recovering slower than expected (12%). Two-thirds of experts believed that universal time points to delineate delayed RTW should be avoided.

Discussion: Multiple factors complicate a uniform definition of delayed RTW.

Conclusion: Defining delayed RTW should be individualized with due consideration to the type of work. Time-based cutoffs for outcome measurement may not be appropriate with continuous measures more appropriate in research.

Level of Evidence: Decision analysis V.

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Introduction

Epidemiologic studies suggest that approximately 70% of the general population in Western countries will experience upper extremity (UE) pain over their lifetime.^{1,2} Nontraumatic UE disorders cause significant sickness absence, disability, and high economic and health care burden.^{2,3} Up to 30% of workers' compensation injuries that develop into claims requiring more than 1 week off work are related to UE,⁴ with costs ranging on average between US\$5000 and \$11,000.⁵ Furthermore,

nontraumatic UE conditions such as carpal tunnel syndrome have among the highest reported days off work of any condition; with some studies reporting the median duration of sickness absence from work after surgery to be as high as 60 days.⁶ After surgery, return to work (RTW) is often used as an outcome to measure progress or as an indicator of functional ability.⁷ It is also a common metric used by third party or workers' compensation insurers to monitor the effectiveness of insurance schemes, clinical management, and RTW interventions.^{8,9}

Promoting early RTW and consequently avoiding (unnecessary) delayed RTW are phrases commonly used by clinicians, researchers, insurers, and policymakers when dealing with workers with nontraumatic UE conditions, especially after treatments to remediate the symptoms, such as surgery, have been provided.³ These phrases originate from both experience and evidence that the longer an

* Corresponding author. Department of Occupational Therapy, School of Health and Rehabilitation Sciences, The University of Queensland, St Lucia, Queensland, Australia. Tel.: +61 7 3834 7069.

E-mail address: research@susanepeters.com (S.E. Peters).

injured worker remains off work, the more unlikely it is that the worker will return to work.⁵ Treatments by an occupational therapist or physiotherapist have a clear goal to motivate and promote worker's physical functioning (including work).¹⁰ Thus, early RTW plausibly suggests treatment success and is purported to have benefits to all stakeholders involved: the worker returns to work, which has health, quality of life, and financial benefits; the employer maintains productivity; and the insurer has lower wage replacement and often lower treatment costs.^{11–14} Conversely, a delayed RTW denotes a poor outcome with adverse health, well-being, and financial consequences.^{12,15} The evidence espouses that unnecessary delays in returning to work should be avoided, and promoting early RTW should be the focus for recovery from injury.^{3,7,10,11} Similarly, studies of RTW prognosis after surgery for nontraumatic UE conditions often examine variables associated with delayed RTW in an attempt to understand this complex phenomena.^{16–20}

Time-based cutoffs are typically used to demarcate a transition from an acute to a chronic (work) disability state for nontraumatic musculoskeletal disorders,²¹ including those of the UE.^{3,5} The premise being that interventions are designed to prevent acute conditions becoming chronic or persistent, and hence causing a chronic disability state.^{3,13} Similarly, the developers of certain screening tools for determining risk factors for work disability for UE and other musculoskeletal disorders advocate for the tools to be administered at specific time frames, usually in the subacute phase before a delayed RTW occurs.^{22–24} A recent systematic review of workplace interventions operationalized the definition for a timely (or nondelayed) RTW as less than 4 weeks.²⁵ This suggests that RTW is delayed if a worker has not returned to work within a month for a musculoskeletal condition including those affecting the UE. These time points are found on evidence that up to 70% of workers return to work within 1 month and approximately 90% return within 3 months.²⁶ Researchers have previously advocated that a differentiation between early and delayed RTW is needed,²⁵ yet there is still a paucity of research exploring this topic, especially in relation to nontraumatic UE conditions, such as carpal tunnel syndrome, lateral epicondylalgia, and rotator cuff tendinopathy.¹⁹

Purpose of the study

The purpose of this study was to define delayed RTW, specifically for workers who have had surgery for nontraumatic disorders of the UE, using a panel of experts. This definition could be used in future research to determine time points for outcome measurement in studies of prognosis and treatment effectiveness for nontraumatic UE disorders. The study was also designed to explore how experts perceived the use of particular definitions for delayed RTW and time points to delineate transition to a poorer RTW outcome (ie, longer work absences). This is of importance as much of the research in this field has been conducted in workers with low back pain. However, the research on back pain or other musculoskeletal conditions but may not directly apply to the UE. Thus, a study exploring definitions and time points for poorer work outcomes (such as a delayed RTW) specifically for workers with nontraumatic UE conditions is needed.

Materials and methods

Experts were surveyed on their views regarding delayed RTW via an electronic questionnaire that was part of a Delphi study. The methods and results of which are reported elsewhere.²⁷ The experts consented to participate, and ethical approval was obtained from the Ethics Committee of The University of Queensland before commencement of the study (#2011SHRS-OT008). Data were collected between May and August 2014.

Selection of experts

International experts ($n = 102$) with a track record of at least 1 publication on work disability for workers with UE disorders or 3 or more publications on prognosis for delayed RTW or defining RTW were invited to participate. With regard to the selection of experts, at first, we restricted the selection of experts to those who had published solely on workers with UE conditions. However, this yielded to few experts. Thus, the definition for an expert for the purpose of this study was broadened to include those who had published 3 or more articles on musculoskeletal diagnoses and RTW. Experts were also able to exclude themselves from the study if they did not consider themselves to qualify as an expert on this topic.

Experts were identified through a literature search of peer-reviewed articles or doctoral theses published in the last 20 years in databases, including Google Scholar, PubMed, MEDLINE, ScienceDirect, and ProQuest Dissertations. The search terms used included prognos*, predict*, determinant*, work, employment, return-to-work, work disability, sickness absence, sick leave, work loss, upper limb, UE, hand, wrist, elbow, shoulder, musculoskeletal, and back pain. Retrieved searches were scanned by 1 member of the research team (SEP) to determine author's eligibility. There was no restriction on language. Searches were also conducted in parallel with a scoping review, and a systematic review was conducted by the authors in which the findings are reported elsewhere.^{16,19} Both first and senior/corresponding authors of these publications were contacted. Six additional experts who met these criteria were not selected as they were known to have retired or were deceased. The compiled list provided a global representation of experts including both researchers and clinicians from various disciplines (occupational health, epidemiology, hand surgery, occupational therapy, and physical therapy).

Questionnaire development

A questionnaire was developed for this study (Appendix A). Questions were agreed on by all members of the research team. The research team consisted of an occupational therapist experience in hand therapy and occupational rehabilitation, 2 physiotherapists (1 with an experience in occupational health), and an orthopedic UE surgeon. The questionnaire was pilot-tested using 3 health care professionals who had more than 10 years of experience in managing injured workers (hand surgeon, occupational and/or hand therapist, and occupational physician). They provided feedback on the content of the questionnaire, and modifications were then made and reviewed again.

The first question investigated how the experts believed delayed RTW should be defined with respect to workers who have had surgery for nontraumatic UE conditions. Three definitions based on the literature were provided as potential answers^{28–31}: (1) a worker does not return to his and/or her preinjury work within the expected time frame; (2) a worker does not return to any type of work within the expected time frame; and (3) a worker recovers slower from his and/or her injury than expected. Experts could also formulate their own definition for delayed RTW, for workers who have had surgery for nontraumatic UE conditions, if their view was not reflected in the provided definitions. The aim of this question was to establish whether there is agreement on a definition based on those used previously in the literature to be used in future research studies.

The second question inquired whether experts believed a universal period could be defined to determine the transition to a delayed RTW for workers after surgery for a nontraumatic UE

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